

PATENT**REMARKS**

The Office Action dated August 8, 2005, has been received and carefully considered. In this Response, independent claim 1 has been amended based upon the Examiner's indication of allowability of claim 8. Reconsideration of the outstanding rejections of independent claims 19 and 32, which are not substantively amended herein, is respectfully requested based on the following remarks.

Examiner Interview

Examiner Guerrero is thanked for the courtesy extended during an interview on Tuesday, October 11, 2005. During the interview, Applicants' representative, Mr. Larson, discussed with Ms. Guerrero a specific embodiment of the present disclosure as illustrated in FIGs. 13 and 14 herewith. Specifically discussed, was an embodiment whereby sidewall spacers are formed from spacer layer 122 without forming a layer overlaying the spacer layer 122. Also discussed were how claims 19 and 32. Examiner Guerrero discussed her position for the initial rejection of these claims. Examiner Guerrero agreed to re-evaluate her rejection of claims 19 and 32 to determine if actual support exists within the Lee reference that discloses the claimed subject matter. No agreement was reached.

Allowability of Claims 8, 18, 26 and 33

The Applicants note with appreciation the indication at page 8 of the Office Action that claims 18 and 33 are allowed and that claims 8 and 26 would be allowable if rewritten in independent form including all limitations of their base claims and any intervening claims.

Claims 1-13

The rejection of claim 1 is respectfully traversed to preserve Applicants the option of challenging the rejection during subsequent proceedings before the USPTO. In the interest of furthering prosecution, claim 1 has been amended to include non-obvious subject matter of allowable claim 8. Specifically, claim 1 has been amended to additionally recite a horizontal portion of the L-shaped spacer varies gradually to provide for an average thickness of the L-shaped portion that is 50 to 85 percent of the maximum thickness. This limitation is not

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disclosed or suggested by the art of record and has been incorporated into claim 1 from claim 8. For at least this reason, it is respectfully requested that the rejection of claim 1 under section 102 be withdrawn, as well as the rejections of claims 2-13 at least by virtue of their dependency from claim 1, which has been amended in view the Examiner's indication of allowability of claim 8.

Overview

A specific embodiment of the present disclosure is hereby discussed to better facilitate an understanding of the claimed subject matter.

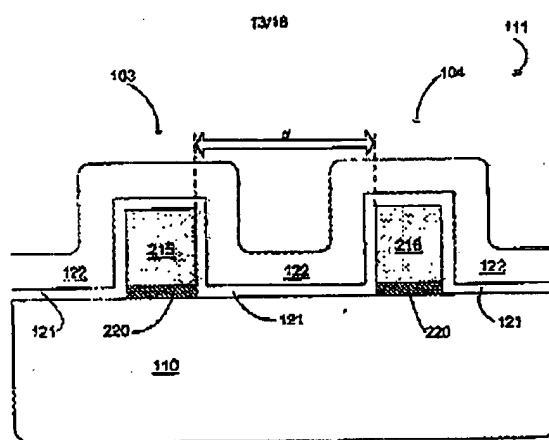


FIG. 13

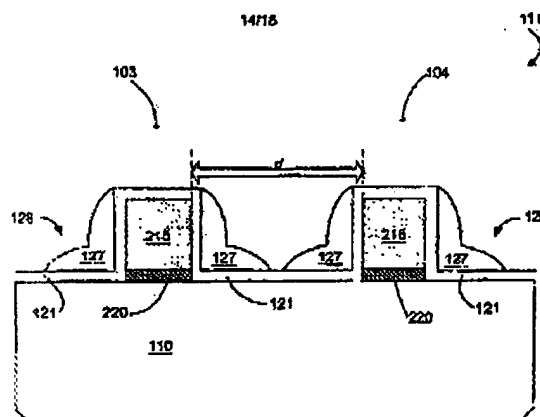


FIG. 14

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The present application discloses the formation of L-shaped spacers without the use of masking structures such as spacers and photoresist. Specifically, FIG. 13, illustrated above, illustrates a dielectric spacer layer 122 prior to forming L-shaped spacers. However, instead of forming L-shaped spacers through the use of a sacrificial layer and selective etching therewith, the specification discloses that the locations where the spacers themselves are to be formed, i.e., the location of spacers 127 (FIG. 14), are etched along with those locations of the spacer layer to be completely removed. In one embodiment, discussed at page 9 of the present application, a fluorine containing gas is used to form spacers 127 without employing the use of a masking structure, such as a sacrificial forming spacer. The disclosed method is advantageous over previous methods, which disclose the use of sacrificial masking structures, because fewer process steps are needed.

Anticipation Rejection of Claim 19

Claim 19 has been rejected under 35 U.S.C. § 102(e) at sections 2 and 3 of the present Action, as being anticipated by Lee (U.S. Patent No. 6,614,079). This rejection is hereby respectfully traversed.

Claim 19 recites etching said first and second exposed surface portions of the dielectric spacer layer while forming first and second L-shaped spacers for the gate structure at respective locations of the first and second exposed surface portions. The emphasized language necessitates that the spacer layer is etched during spacer formation at the location where the spacers are being formed (the locations of the first and second exposed surface portions). With respect to FIG. 13, the first and second exposed surface portions correspond to those portions of layer 122 adjacent gate 215 at which spacers 127 are being formed. The Examiner states that Lee discloses these limitations at FIG. 2C-2D, col. 7, lines 10-14, and col 8, lines 7-33. The Applicants disagree.

The relied upon portions of Lee disclose preventing the location where L-shaped spacers from being etched during their formation by masking the spacers locations, not etching the location where L-shaped spacers are being formed as recited in claim 19. Therefore, Lee effectively discloses the opposite of that recited in claim 19, thereby teaching away from the recited language of claim 19. While Lee states that a photoresist may be used, thereby leaving

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open the possibility for other techniques to be used, it is respectfully noted that no other techniques for forming spacers are disclosed by Lee.

The Examiner replies to the Applicants "teaches away" argument at section 12 stating that disclosed examples and preferred embodiments, such as those disclosed by Lee, do not constitute a teaches away argument. However, in the present situation, where the only disclosure made by Lee is contrary to the recitation of claim 19, a teaches away argument is appropriate. For example, instead of disclosing a method that etches the dielectric spacer layer at the location where spacers are being formed, as recited, Lee only discloses preventing the spacer locations from being etched by forming a photoresist over these locations.

The Examiner does not identify where Lee discloses etching the dielectric spacer layer at the spacer locations as recited in claim 19, but instead, the Examiner concludes at section 9 of the present action that because Lee states photoresist may be used in a preferred etching process that the recited limitations of claim 19 are somehow disclosed. It is respectfully requested that the Examiner indicate where the disclosure of recited elements of claim 19 are disclosed in Lee. Specifically, where does Lee disclose etching said first and second exposed surface portions of the dielectric spacer layer while forming first and second L-shaped spacers for the gate structure at respective locations of the first and second exposed surface portions, which necessitates that the spacer layer is etched at locations where the spacers are being formed.

The Examiner further states at sections 10 and 11 of the present Action that the term "comprising" leaves the claim open for the inclusion of other elements, and that the claims are to be interpreted broadly. While the Examiner's position is acknowledged, it is respectfully submitted that the Examiner has not provided a broad interpretation of claim 19 that is disclosed by Lee. Instead of interpreting claim 19 broadly as permitted, it appears that the Examiner has interpreted Lee broadly, and thereby mischaracterized the disclosure of Lee. It is respectfully requested that the Examiner identify where Lee discloses etching said first and second exposed surface portions of the dielectric spacer layer while forming first and second L-shaped spacers for the gate structure at respective locations of the first and second exposed surface portions, as recited in claim 19.

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Because Lee does not disclose each and every element of claim 19, withdrawal of the rejection of claim 19 under section 102 is respectfully requested. Specifically, Lee discloses preventing the etch of a spacer layer at the location where spacers are being formed through the use of a photoresist, as opposed to etching the spacer layer at the spacer location as recited in claim 19. In addition, because none of the combination of references used to reject claims depending from claim 19 disclose the recited elements of claim 19, withdrawal of rejections of claims 20-31 is also requested at least by virtue of their dependency from claim 19.

Anticipation Rejection of Claim 32

Claim 32 has been amended to provide proper antecedent support for the term "dielectric spacer layer". The scope of claim 32 has not been changed.

Claim 32 recites forming a dielectric spacer layer, and etching the dielectric spacer layer, prior to forming any layer overlying the dielectric spacer layer, to form L-shaped spacers from the dielectric spacer layer for the gate structure. Lee does not disclose etching the dielectric spacer layer prior to forming any layer, as recited. Instead, for the reasons previously discussed, Lee teaches away from claim 32 because Lee discloses the opposite of that recited in claim 19 in that Lee discloses etching after forming a photoresist layer overlying the dielectric spacer layer, which is directly contrary to the recited language of claim 32.

Lee's permissive language, which states that a photoresist may be used, does not disclose etching without forming any layer overlying the dielectric layer, as recited in claim 32. As previously discussed, there is no enabling discussion, or even mention, of etching the spacer layer prior to forming any layer over the spacer layer in Lee. The disclosure of Lee is contrary to that of claim 32, which recites a method of forming the L-shaped spacers without the use of a masking structure, Lee only discloses forming the spacers through the use of a masking structure.

Withdrawal of the rejection of claim 32 under section 102 is respectfully requested because Lee does not disclose etching the dielectric spacer layer prior to forming any other layer as recited in claim 19. Instead, Lee only discloses the contrary, specifically, forming a photoresist layer overlying the dielectric spacer layer prior to etching the dielectric spacer layer.

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Conclusion

The Applicants respectfully submit that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

The Applicants believe no additional fees are due, but if the Commissioner believes additional fees are due, the Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 01-0365.

Respectfully submitted,

10-11-05
Date


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